

IN THE CLAIMS

1 (Previously Presented). A method comprising:
attaching ligands along a polymer bristle to form a semiconductor wafer cleaning brush.

2 (Original). The method of claim 1 including attaching ligands using a hydrolysis reaction.

3 (Previously Presented). The method of claim 1 including attaching ligands along a polyvinyl alcohol polymer.

4 (Previously Presented). The method of claim 1 including using a coupling agent to attach ligands along a polymer chain.

5 (Original). The method of claim 1 including attaching ligands to provide a hydrophilic property.

6 (Original). The method of claim 1 including attaching ligands to provide hydrophobic property.

7 (Original). The method of claim 1 including attaching ligands to provide a reducing agent property.

8 (Original). The method of claim 1 including attaching ligands to provide an oxidizing property.

9 (Original). The method of claim 1 including attaching ligands to provide an attraction to a specific material.

10 (Original). The method of claim 1 including attaching ligands to change the zeta potential.

11 (Original). The method of claim 1 including attaching a ligand having a subchain to the polymer.

12 (Original). The method of claim 11 including attaching a moiety to said subchain to provide a desired property to said ligand.

13 (Previously Presented). A method comprising:
cleaning a semiconductor wafer using a polymer brush having ligands attached along a polymer.

14 (Original). The method of claim 13 including using a brush having ligands attached to polyvinyl alcohol polymer bristles.

15 (Original). The method of claim 13 including using a brush having ligands that to provide a hydrophilic property.

16 (Original). The method of claim 13 including using a brush having ligands that provide a hydrophobic property.

17 (Original). The method of claim 13 including using a brush having ligands that provide a reducing agent property.

18 (Original). The method of claim 13 including using a brush having ligands that provide an oxidizing property.

19 (Original). The method of claim 13 including using a brush having ligands that are attracted to a specific material.

20 (Original). The method of claim 13 including using a brush having ligands having a positive zeta potential.

21 (Original). The method of claim 13 including using a brush having ligands having a negative zeta potential.

22 (Original). The method of claim 13 including using a brush having a ligand having a subchain of at least two carbon atoms.

23 (Previously Presented). The method of claim 22 including using a brush having a moiety on said subchain to provide a property to said ligand.

24 (Withdrawn). A brush for cleaning semiconductor wafers comprising:
a polymer chain having ligands attached along the length of the chain.

25 (Withdrawn). The brush of claim 24 wherein said chain is a polyvinyl alcohol polymer chain.

26 (Withdrawn). The brush of claim 25 wherein said chain is a formal polyvinyl alcohol chain.

27 (Withdrawn). The brush of claim 24 wherein one of said ligands includes a hydrophilic moiety.

28 (Withdrawn). The brush of claim 24 wherein one of said ligands includes a hydrophobic moiety.

29 (Withdrawn). The brush of claim 24 wherein one of said ligands includes a reducing agent moiety.

30 (Withdrawn). The brush of claim 24 wherein one of said ligands includes an oxidizer.

31 (Withdrawn). The brush of claim 24 wherein one of said ligands includes a moiety attracted to a specific material.

32 (Withdrawn). The brush of claim 24 wherein one of said ligands includes a negative zeta potential moiety.

33 (Withdrawn). The brush of claim 24 wherein one of said ligands includes a positive zeta potential moiety.

34 (Withdrawn). The brush of claim 24 wherein one of said ligands is attached to a carbon chain having at least two carbon atoms.